Message

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Sent: 6/19/2018 6:01:52 PM
To: jrandolph_utah.gov [jrandolph@utah.gov]
Subject: Followup from inspections

Hi Joe, thanks for the time last week doing T-5 inspections together. It was great to get to know you and see a bit about your typical inspection process. Looks like we found some good emission reduction opportunities as well!

Given the oil and gas industry issues with storage tanks that we're seeing elsewhere in Region 8, I was trying to look at the regulatory mechanisms that may exist there to combat poor design, operation, and control of tank emissions. I wrote up a bit of an analysis below—could you take a look and let me know of my read on things?

Thanks, chat soon,
Joe

What regulatory authority is requiring Kinder Morgan at the South Plant to control emissions from its condensate tanks. The Title V references an operating permit and what looks like the Utah PSD regulations. Confirm with Joe R how this requirement came about.

It looks like the general Utah rules for the Oil and Gas sector (307-501) apply to all the facilities regardless of construction/operation dates, and there are some general provisions I've highlighted below (in yellow) which may be actionable.

The permit itself requires "All emissions from the pit tank and condensate storage tanks (T-2, T-3, T-5 and T-6) shall be routed to the Combustor", and I don't see inspection and repair requirements which would allow for emissions but require repair when detected, so these appear actionable directly.

Utah has O&G sector storage tank requirements that it looks like were just passed this spring (see green highlight below) which would be very stringent and require controls on all tanks in operation as of Jan 1, 2018 that meet low throughput and emissions trigger criteria (about 80,000 gal/year of condensate, which Kinder Morgan would have greatly exceeded at all of their sites, and site-wide tank uncontrolled tank emissions are >4 tons/rolling 12 months). All storage tanks beginning operation after Jan 1, 2018 require controls for 1 year. These new requirements weren't referenced in any of the permits, so not sure if they still would/could apply or if I'm missing something in my read.

R307-501-3. Applicability.

(1) R307-501 applies to all oil and natural gas exploration, production, and transmission operations; well production facilities; natural gas compressor stations; and natural gas processing plants in Utah.

(2) R307-501 does not apply to oil refineries.

R307-501-4. General Provisions.

(1) General requirements for prevention of emissions and use of good air pollution control practices.

(a) All crude oil, condensate, and intermediate hydrocarbon liquids collection, storage, processing and handling operations, regardless of size, shall be designed, operated and maintained so as to minimize emission of volatile organic compounds to the atmosphere to the extent reasonably practicable.

(b) At all times, including periods of start-up, shutdown, and malfunction, the installation and air pollution control equipment shall be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions.

(c) Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the director, which may include, but is not limited to, monitoring results, infrared camera images, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(2) General requirements for air pollution control equipment.

(a) All air pollution control equipment shall be operated and maintained pursuant to the manufacturing specifications or equivalent to the extent practicable and consistent with technological limitations and good engineering and maintenance practices.

(b) The owner or operator shall keep manufacturer specifications or equivalent on file.

(c) In addition, all such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates established in rules or in approval orders issued under R307-401 and to handle reasonably foreseeable fluctuations in emissions of VOCs during normal operations. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable.

R307-506-3. Applicability.

(1) R307-506 applies to each storage vessel located at a well site as defined in 40 CFR 60.5430a, Subpart OOOOa, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution.

(2) R307-506 shall apply to centralized tank batteries.

(3) R307-506 does not apply to storage vessels that are subject to an approval order issued under R307-401-8.

R307-506-4. Storage Vessel Requirements.

(1) Thief hatches on storage vessels shall be kept closed and latched except during vessel unloading or other maintenance activities.

(2) All storage vessels located at a well site that are in operation as of January 1, 2018, with a site-wide throughput of 8,000 barrels or greater of crude oil or 2,000 barrels or greater of condensate per year on a rolling 12-month basis shall comply with R307-506-4(2)(a) unless the exemption in R307-506-4(2)(b) applies.

(a) VOC emissions from storage vessels shall either be routed to a process unit where the emissions are recycled, incorporated into a product and/or recovered, or be routed to a VOC control device that is in compliance with R307-508.

(b) All storage vessels located at a well site shall be exempt from R307-506-4(2)(a) if combined VOC emissions are demonstrated to be less than four tons per year of uncontrolled emissions on a rolling 12-month basis.

(i) VOC working and breathing losses, and flash emissions shall be calculated using direct site-specific sampling data and any software program or calculation methodology in use by industry that is based on AP-42 Chapter 7.

(3) All storage vessels that begin operations on or after January 1, 2018, are required to control VOC emissions in accordance with R307-506-4(2)(a) upon startup of operation for a minimum of one year.

(4) An emergency storage vessel located at a well site shall be exempt from R307-506-4(2)(a), if it meets the following requirements:

(i) The emergency storage vessel shall not be used as an active storage tank.

(ii) The owner or operator shall empty the emergency storage vessel no later than 15 days after receiving fluids.

(iii) The emergency storage vessel shall be equipped with a liquid level gauge or equivalent device.

(5) An owner or operator that is required to control emissions in accordance with R307-506-4(2) and R307-506-4(3) shall inspect at least once a month each closed vent system, including vessel openings, thief hatches, and bypass devices, for defects that can result in air emissions according to 40 CFR 60.5416a(c).

(a) If defects are discovered, the defects shall be corrected or repaired within 15 days of identification.

(6) Modification to a well site shall require a re-evaluation of site-wide throughput and/or emissions in accordance with R307-506-4(2).

(7) After a minimum of one year of operation, controls may be removed if site-wide throughput is less than 8,000 barrels of crude oil or 2,000 barrels of condensate on a rolling 12-month basis or uncontrolled actual emissions are demonstrated to be less than four tons per year.

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